

CLAIMS

1. A display device characterized by comprising:

a light emitting element;

5 an analog switch including a first transistor and a second transistor; and
a biasing transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically connected to a second power supply line;

10 wherein a gate electrode of the first transistor is electrically connected to the first power supply line, and a gate electrode of the second transistor is electrically connected to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a third power supply line, one of a source electrode and a drain electrode of the biasing transistor is electrically connected to the first power supply line, and the other is electrically connected to an output terminal of the analog switch and a scan line.

2. A display device characterized by comprising:

a light emitting element;

20 a clocked inverter including a first transistor and a second transistor; and
a biasing transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically connected to a second power supply line;

25 wherein a gate electrode of the first transistor is electrically connected to the first power supply line, and a gate electrode of the second transistor is electrically connected to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a third power supply line, one of a source electrode and a drain electrode of the biasing transistor is electrically connected to the first power supply line, and the other is

electrically connected to an output terminal of the clocked inverter and a scan line.

3. A display device characterized by comprising:

a light emitting element;

5 a clocked inverter including a first transistor and a second transistor;

a biasing transistor; and

a level shifter,

wherein one of a first electrode and a second electrode of the light emitting
element is electrically connected to a first power supply line, and the other is electrically
10 connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the
first power supply line, and a gate electrode of the second transistor is electrically
connected through the level shifter to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a
15 third power supply line, one of a source electrode and a drain electrode of the biasing
transistor is electrically connected to the first power supply line, and the other is
electrically connected to an output terminal of the clocked inverter and a scan line.

4. A display device characterized by comprising:

20 a light emitting element;

a clocked inverter including a first transistor and a second transistor;

a biasing transistor; and

a first level shifter and a second level shifter,

wherein one of a first electrode and a second electrode of the light emitting
25 element is electrically connected to a first power supply line, and the other is electrically
connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected
through the first level shifter to the first power supply line, and a gate electrode of the
second transistor is electrically connected through the second level shifter to the second
30 power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a third power supply line, one of a source electrode and a drain electrode of the biasing transistor is electrically connected to the first power supply line, and the other is electrically connected to an output terminal of the clocked inverter and a scan line.

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5. A display device characterized by comprising a light emitting element and an analog switch including a first transistor and a second transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically
10 connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the first power supply line, and a gate electrode of the second transistor is electrically connected to the second power supply line; and

wherein an output terminal of the analog switch is electrically connected to a
15 signal line.

6. The display device according to any one of claims 1 to 4, characterized by further comprising a plurality of transistors disposed between the first power supply line and the signal line,

20 wherein a gate electrode of a transistor selected from the plurality of transistors is electrically connected to the scan line.

7. A driving method of a display device comprising a light emitting element, an analog switch including a first transistor and a second transistor, and a biasing
25 transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the
30 first power supply line, and a gate electrode of the second transistor is electrically

connected to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a third power supply line, one of a source electrode and a drain electrode of the biasing transistor is electrically connected to the first power supply line, and the other is electrically connected to an output terminal of the analog switch and a scan line,

characterized by the method comprising the steps of:

inverting a potential of the first power supply line and a potential of the second power supply line;

applying a reverse bias to the light emitting element;

turning off the analog switch and turning on the biasing transistor; and

making the potential of the first power supply line equal to a potential of the scan line.

8. A driving method of a display device comprising a light emitting element, a clocked inverter including a first transistor and a second transistor, and a biasing transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the first power supply line, and a gate electrode of the second transistor is electrically connected to the second power supply line; and

wherein a gate electrode of the biasing transistor is electrically connected to a third power supply line, one of a source electrode and a drain electrode of the biasing transistor is electrically connected to the first power supply line, and the other is electrically connected to an output terminal of the clocked inverter and a scan line,

characterized by the method comprising the steps of:

inverting a potential of the first power supply line and a potential of the second power supply line;

applying a reverse bias to the light emitting element;

making the clocked inverter enter a high impedance state and turning on the biasing transistor; and

making the potential of the first power supply line equal to a potential of the scan line.

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9. A driving method of a display device comprising a light emitting element and an analog switch including a first transistor and a second transistor,

wherein one of a first electrode and a second electrode of the light emitting element is electrically connected to a first power supply line, and the other is electrically
10 connected to a second power supply line;

wherein a gate electrode of the first transistor is electrically connected to the first power supply line, and a gate electrode of the second transistor is electrically connected to the second power supply line; and

wherein an output terminal of the analog switch is electrically connected to a
15 signal line,

characterized by the method comprising the steps of:

inverting a potential of the first power supply line and a potential of the second power supply line;

applying a reverse bias to the light emitting element; and

20 turning off the analog switch.

10. The driving method of a display device, according to claim 7 or 8, characterized by further comprising the steps of:

making a potential of the first power supply line equal to a potential of the
25 scan line; and

turning off a transistor selected from a plurality of transistors disposed between the first power supply line and the signal line.